AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. – 48. (Cancelled)

49. (New) A housing for an LED-chip, comprising:

a concave-mirror-like or aperture-like, optical element, said optical element being operable to influence emission characteristics of light emitted by said LED-chip,

the housing further comprising a continuous, thermally conductive path from a fastening surface for the LED-chip to surfaces of said optical element, said surfaces being open to an outside and constituting surfaces of the housing, wherein each of the elements constituting this thermally conductive path is either metallic or made from plastic material filled with metal, and wherein said optical element and said thermally conductive path as a sum form a continuous cooling body for the LED-chip.

50. (New) The housing according to claim 49, further comprising a carrier element which comprises the fastening surface, the carrier element being operable for fastening and electrically contacting the LED-chip.

51. (New) The housing according to claim 50, wherein the carrier element is at least

partly metallic and wherein said thermally conductive path formed by metal or plastic filled with metal exists between the fastening surface for the LED-chip on a front side, and at least 50% of an open rear side of the carrier element.

52. (New) The housing according to claim 49, wherein the optical element is completely metallic.

53. (New) The housing according to claim 49, wherein outer surfaces of the optical element are ribbed.

54. (New) A housed LED, comprising:

an LED-chip, and

a housing,

the housing comprising a concave-mirror-like or aperture-like optical element

said optical element being operable to influence emission characteristics of light emitted by said LED-chip,

the housing further comprising a continuous, thermally conductive path from a fastening surface of the LED-chip to surfaces of said optical element, said surfaces being open to an outside and constituting surfaces of the housing, wherein each of the elements constituting this thermally conductive path is either metallic or made from plastic material filled with metal, and wherein said optical element and said thermally conductive path as a sum form a continuous cooling body for the LED-chip.

55. (New) The housed LED according to claim 54, wherein the optical element is

completely metallic.

56. (New) The housed LED according to claim 54, further comprising a carrier element which comprises the fastening surface, the carrier element carrying and electrically contacting the LED-chip.

57. (New) The housed LED according to claim 56, wherein the connection between the LED-chip and the carrier element is completely metallic.

58. (New) The housed LED according to claim 54, wherein the optical element forms a concave mirror which laterally surrounds the LED with respect to a main radiation direction.

59. (New) The housed LED according to claim 58, wherein the optical element at least partly is metallic, and projects beyond the LED-chip in height.

60. (New) The housed LED according to claim 54, wherein light emitted by the housed LED has an exit angle of at most ± 30°, wherein the light exit angle is defined such that outside this angle, the light intensity related to the brightest angular region is smaller than 50%.

61. (New) The housed LED according to claim 54, wherein a concave mirror of the optical element is formed by a rotationally symmetrical mirroring surface surrounding the LED-chip, and wherein a symmetry axis of the concave mirror is perpendicular to

the fastening surface.

62. (New) The housed LED according to claim 56, wherein the carrier element is plate-like in sections.

63. (New) The housed LED according to claim 56, wherein the carrier element is completely metallic.

64. (New) The housed LED according to claim 56, wherein the carrier element comprises a light reflecting coating.

65. (New) The housed LED according to claim 64, wherein the carrier element, in a vicinity of the LED-chip, comprises a concave-mirror-like zone.

66. (New) The housed LED according to claim 54, wherein the fastening surface is lifted from a base surface of the carrier element.

67. (New) The housed LED according to claim 66, wherein the optical element reaches to the base surface of the carrier element and, thus, to below the LED-chip.

68 (New) The housed LED according to claim 56, wherein the connection between optical element and the carrier element is at least 50% metallic.

69. (New) The housed LED according to claim 56, wherein the metallic carrier

element is a part of a leadframe.

70. (New) The housed LED according to claim 69, wherein parts of the metallic carrier element are held together by a backfill material.

71. (New) The housed LED according to claim 70, wherein the backfill material also at least partially fills the concave-mirror-like or aperture-like optical element.

72. (New) The housed LED according to claim 70, wherein the backfill material is one of the group of silicone, amorphous Teflon AF, silicone filled with particles of an inorganic, optically transparent material, and amorphous Teflon AF filled with particles of an inorganic, optically transparent material.

73. (New) The housed LED according to claim 54, wherein a concave region or aperture of the said optical element is at least partially filled by at least partially transparent material.

74. (New) A method for the manufacture of a plurality of housed LED-chips, which in each case comprise a carrier element for the fastening and the electrical contacting of an LED-chip, comprising the steps of:

prestructuring a large-surfaced or oblong carrier;

fastening and electrically contacting LED-chips on the carrier;

providing the carrier with a multitude of aperture-like or concave-mirror-like optical elements; and

dividing up the carrier into individual carrier elements each carrying at least one LED chip and at least one of said optical elements, wherein the step of dividing up the carrier may be effected before or after the step of attaching the optical elements.

75. (New) The method according to claim 74, comprising the additional step of filling openings in the optical elements with transparent material or with materials intermingled with particles of the size of less than a wavelength subsequently to attaching the optical elements on the carrier.

76. (New) A light source, comprising:

a carrier element and an array of electrically contacted LED-chips present on fastening surfaces of the carrier element, and for each LED-chip or for each unit of several LED-chips, a concave-mirror-like or aperture-like optical element, and

a continuous, thermally conductive path from a fastening surface for the LED-chips to surfaces of said optical element assigned to them, said surfaces being open to an outside, wherein each of the elements constituting this thermally conductive path is either metallic or made from plastic material filled with metal, and wherein said optical element and said thermally conductive path as a sum form a continuous cooling body for the LED-chip.

77. (New) The light source according to claim 76, wherein the carrier element is at least partly metallic and that a thermally conductive path formed by metal or plastic filled with metal exists between a fastening location for the LED-chip or the LED-

chips on a front side, and at least 50% of an open rear side of the carrier element.

78. (New) The light source according to claim 76, wherein the carrier element comprises at least one metal layer which at the location of the LED-chip or LED-chips penetrates possibly present non-metallic layers, such that the surface of the penetration corresponds at least to the chip surface, and that metal comes to the surface on both sides of the carrier element.

79. (New) The light source according to claim 76, wherein the carrier element, in a vicinity of the LED-chip, is coated such that it forms a mirror surface.

80. (New) The light source according to claim 76, comprising a filling of the concave-mirror-like or aperture-like element with optically at least partly transparent material, which either completely fills out the concave-mirror-like or aperture-like optical element, or has such a small thickness that it does not completely fill the concave-mirror-like or aperture-like optical element.

81. (New) The light source according to claim 76, wherein the optical elements are completely metallic.

82. (New) The light source according to claim 76, wherein the optical elements, which with regard to a main radiation direction, laterally completely surround the LED-chip or the unit of LED-chips assigned to them, and project beyond it in height.

83. (New) The light source according to claim 82, wherein a concave-mirror of the optical elements is formed by a mirroring surface surrounding the LED-chip or the unit of LED-chips, wherein the mirroring surface is rotationally symmetrical and wherein an axis of symmetry of the concave mirror is perpendicular to the fastening surface.

84. (New) The light source according to claim 76, comprising first and second contact zones of the carrier element for the electrical contacting of the LED-chips, wherein at least from the first contact zones, a continuous metallic, thermally conductive path to the rear side of the carrier element exists.

85. (New) The light source according to claim 84, comprising an electrical connection from the second contact zones to the rear side of the carrier element.

86. (New) A light source, comprising:

a carrier element,

and deposited thereon, an array of LED-chips, wherein the carrier element may be subdivided into carrier element regions, and exactly one carrier element region is allocated to each LED-chip or each unit of several LED-chips arranged next to one another, and wherein a carrier element region comprises a first and a second contact zone for electrically contacting the LED-chip, wherein the first and the second contact zone are electrically connected to one another.

87. (New) The light source according to claim 86, wherein the first and the second

contact zone may be electrically insulated from one another by way of separating the carrier element region from the rest of a light panel.